Model Name and Version: AMIGA 2002 (The All-Modular Industry Growth Assessment Modeling System).

Model Type: Multi-sector CGE model with energy-related emissions. The emissions include economy-wide carbon, as well as SO_2, NO_x, and mercury emissions within the electric utility sector.

Developer/Home Institution: Donald A. Hanson. Argonne National Laboratory. Chicago, IL. USA. Telephone: (630) 252-5061, email: dhanson@anl.gov.

Sector Detail: 200 plus sectors of the US economy, including households, government, and industry with significant end-use energy detail within the residential, commercial, industrial, and transportation sectors. AMIGA also has a detailed representation of electric utilities and distributed generation resources. This includes a unit inventory of 2200 power plants with their 1998 base year characteristics including heat rate, generation, capacity, and emissions of SO_2, NO_X, Hg, and carbon. Distributed resources include wind systems, biomass, building integrated photovoltaics, fuel cells, as well as natural gas, biomass, and other CHP.

Regional Detail: US Domestic with adjustments for imports and international trade. Individual power plants located by state are dispatched and then aggregated to national level to show generation, fuel use, and emissions.

Technology Detail: The model includes stocks and investment flows for all electric power plants, with substantial technology detail in all major end-use sectors, especially transportation and distributed generation. Includes pollution control technology options.

Time Period: An equilibrium model that solves annually for the period 1998 through 2050.

Special Features: Allows the banking of emission allowances and revenue recycling. It also includes ability to reflect R&D, renewable portfolio standards, and other government costs such spending on Energy Star programs and other voluntary initiatives,including their resulting effects on fuel and electricity prices and on investment expenditures.

Treatment of Renewable Energy: Six categories of renewable energy technologies: Wind, biomass, geothermal, fuel cells, building integrated photovoltaics, and other, all using a supply function approach. More detailed representations are being implemented. The policy analysis capabilities include research and development, renewable portfolio standards, investment tax credits, and production tax credits.

Major Users/Applications: Economic, energy and emissions impact and scenario analyses for the following: EPA Office of Atmospheric Programs, the former DOE Office of Transportation Technologies, Stanford University's Energy Modeling Forum, Pew Climate Center, Global Business Network, and the Keystone Dialogue on Climate Change.

Documentation: Hanson, Donald A, 1999. *A Framework for Economic Impact Analysis and Industry Growth Assessment: Description of the AMIGA System,* Decision and Information Sciences Division, Argonne National Laboratory, Argonne, IL, April, 1999.

URL: None currently available.